Mr. Lee Martin
Heritage Furniture, A Division of Middlebury Hardwood Products, Inc.
19881 County Road 146
New Paris, Indiana 46553

Re: **039-11516**
Minor Source Modification to:
Part 70 permit No.: **T039-7682-00437**

Dear Mr. Martin:

Heritage Furniture was issued Part 70 operating permit T039-7682-00437 on December 21, 1998 for a wood furniture manufacturing operation. An application to modify the source was received on November 1, 1999. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

(a) Five (5) closed top wood coating dip tanks, identified as EU-7 through EU-11, each with a maximum rating of 30 units per hour, with fugitive emissions from each dip tank venting internally.

(b) One (1) natural gas fired air make-up unit, with a maximum capacity rated at 3.6 MMBtu per hour, identified as EU-12, exhausting internally.

Item (b), above, falls under the category of natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, and therefore is considered an insignificant activity.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are specified in the Significant Permit Modification document 039-11562 associated with this Minor Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5 and 326 IAC 2-7-12.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, press 0 and ask for Melissa Groch or extension 3-8397, or dial (317) 233-8397.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
MMG
cc: File -Elkhart County
U.S. EPA, Region V
Elkhart County Health Department
Northern Regional Office
Air Compliance Section Inspector- Ray Schick
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Part 70 Minor Source Modification

Source Background and Description

Source Name: Heritage Furniture, a Division of Middlebury Hardwood Products, Inc.
Source Location: 19881 County Road 146, New Paris, Indiana 46553
County: Elkhart
SIC Code: 2511, 2521
Operation Permit No.: T039-7682-00437
Operation Issuance Date: December 21, 1998
Minor Source Modification No.: 039-11516-00437
Permit Reviewer: Melissa Groch

The Office of Air Management (OAM) has reviewed a minor source modification application from Heritage Furniture relating to the construction of the following emission units:

(a) Five (5) closed top wood coating dip tanks, identified as EU-7 through EU-11, each with a maximum rating of 30 units per hour, with fugitive emissions from each dip tank venting internally.

(b) One (1) natural gas fired air make-up unit, with a maximum capacity rated at 3.6 MMBtu per hour, identified as EU-12, exhausting internally.

Item (b), above, falls under the category of natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, and therefore is considered an insignificant activity.

History

On November 1, 1999, Heritage Furniture submitted an application to the OAM requesting to install five (5) new dip tanks to their existing surface coating operation, and one (1) air make-up unit.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

There are no stacks associated with the five new dip tanks, or the air make-up unit.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 minor source modification application for the purposes of this review was received on November 1, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations, pages 1 and 2 of 2.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	n/a
PM-10	0.1
SO_2	n/a
VOC	13.49
CO	1.3
NO_x	1.6
Haps	n/a

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(d)(4)(B)(iii), which states that modifications that would have the potential to emit of less than twenty-five tons per year and equal to or greater than ten tons per year of volatile organic compounds (VOC) shall be processed in accordance with 326 IAC 2-7-10.5(e).

Also, this modification is being performed pursuant to 326 IAC 2-7-10.5(d)(6) because it is a modification that is subject to a national emission standard for hazardous air pollutants (NESHAP), and this requirement is the most stringent applicable requirement for this type of modification.

This minor source modification serves as the approval to construct. The approval to operate is being performed under document 039-11562, and shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5 and 326 IAC 2-7-12.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
VOC	less than 250

(a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

(b) These emissions are based upon the Part 70 Technical Support Document for this source.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Five (5) dip tanks	n/a	n/a	n/a	13.39	n/a	n/a	n/a
Air make-up unit	n/a	0.1	n/a	0.1	1.3	1.6	n/a

This modification to an existing minor stationary source under PSD is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability- Dip Tanks

(a) The five (5) new dip tanks are subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 20-14, (40 CFR 63, Subpart JJ). This NESHAP was an existing requirement for this source prior to the addition of the dip tanks.

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart JJ.

Pursuant to 40 CFR 63, Subpart JJ, the wood furniture coating operations shall comply with the following conditions:

(a) Limit the Volatile Hazardous Air Pollutants (VHAP) emissions from finishing operations as follows:

(1) Achieve a weighted average volatile hazardous air pollutant (VHAP) content across all coatings of one (1.0) pound VHAP per pound solids as applied; or

(2) Use compliant finishing materials in which all stains, washcoats, sealers, topcoats, basecoats and enamels have a maximum VHAP content of 1.0 pound VHAP per pound solid, as applied. Thinners used for on-site formulation of washcoats, basecoats, and enamels have a 3.0 percent maximum VHAP content by weight. Solvent and thinner mixtures used for other purposes have a ten percent (10.0%) maximum VHAP content by weight; or

(3) Use a control device to limit emissions to one (1.0) pound VHAP per pound solids; or

(4) Use a combination of (1), (2), and (3).

(b) Limit VHAP emissions contact adhesives as follows:

(1) For foam adhesives used in products that meet the upholstered seating flammability requirements, the VHAP content shall not exceed one and eight-tenths (1.8) pound VHAP per pound solids.

(2) For all other contact adhesives (except aerosols and contact adhesives applied to nonporous substrates) the VHAP content shall not exceed one (1.0) pound VHAP per pound solids as applied.

(3) Use a control device to limit emissions to one (1.0) pound VHAP per pound solids.

(c) The strippable spray booth material shall have a maximum VOC content of eight-tenths (0.8) pounds VOC per pound solids as applied.

(d) The source shall complete a work practice implementation plan within sixty (60) calender days after the source's compliance date as specified in 40 CFR 63.803. The plan must detail how the source will incorporate environmentally desirable practices into operation.

(e) A semi-annual summary report shall be prepared and submitted to IDEM, OAM, to document the ongoing compliance status of the wood furniture coating operations.

State Rule Applicability- Dip Tanks

326 IAC 8-2-12 (Volatile Organic Compounds)

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, the surface coating applied to wood furniture shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination

Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no compliance monitoring requirements applicable to this modification because the five (5) dip tanks are closed top, and do not have any associated stacks.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed **Part 70 Minor Source Modification No. 039-11516-00437**.

Appendix A: Emissions Calculations

Company Name: Heritage Furniture, a Division of Middlebury Hardwood Products, Inc.
Address City IN Zip: 19881County Road 146, New Paris, Indiana 46553
Minor Source Modification: 039-11516
Plt ID: 00437
Reviewer: Melissa Groch

VOC from Closed Top Dip Tanks

Dip Tank Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
EU-7 and EU-8																
Stain 1803 for 2 tanks	7.01	95.74%	0.0%	95.7%	0.0%	4.26%	0.003	60	6.71	6.71	1.21	28.99	5.29	0.00	157.51	100%
EU-9 and EU-10																
Stain 3828 for 2 tanks	7.76	90.15%	0.0%	90.1%	0.0%	9.85%	0.003	60	7.00	7.00	1.26	30.22	5.52	0.00	70.99	100%
EU-11																
Stain 4082	6.97	93.93%	0.0%	93.9%	0.0%	3.91%	0.003	30	6.55	6.55	0.59	14.14	2.58	0.00	167.52	100%

State Potential Emissions **Add worst case coating to all solvents** **3.06** **73.35** **13.39** **0.00**

VOC and Particulate from TV application
From Existing Spray Booth Operations

Spray Booth Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
EU-3, EU-4, EU-5, EU-6																
Clear Coat	7.95	78.00%	0.0%	78.0%	0.0%	0.00%	0.12500	4.110	6.20	6.20	3.19	76.46	13.95	0.3936	ERR	90%
Lacquer Thinner	7.00	100.00%	0.0%	100.0%	0.0%	0.00%	0.00500	4.110	7.00	7.00	0.14	3.45	0.63	0.0000	ERR	90%
Pigmented Lacquer	7.52	73.00%	0.0%	73.0%	0.0%	0.00%	0.00100	4.110	5.49	5.49	0.02	0.54	0.10	0.0037	ERR	90%
Stain 6WS1673	7.16	97.91%	0.0%	97.9%	0.0%	0.00%	0.00700	4.110	7.01	7.01	0.20	4.84	0.88	0.0019	ERR	90%
Stain 6WS1721	7.35	96.12%	0.0%	96.1%	0.0%	0.00%	0.00200	4.110	7.06	7.06	0.06	1.39	0.25	0.0010	ERR	90%
Stain 6WS1803	7.35	92.38%	0.0%	92.4%	0.0%	0.00%	0.00300	4.110	6.79	6.79	0.08	2.01	0.37	0.0030	ERR	90%
Stain 6WS1815	8.19	74.73%	0.0%	74.7%	0.0%	0.00%	0.00300	4.110	6.12	6.12	0.08	1.81	0.33	0.0112	ERR	90%
Stain 6WSXXXX	7.16	97.91%	0.0%	97.9%	0.0%	0.00%	0.10100	4.110	7.01	7.01	2.91	69.84	12.75	0.0272	ERR	90%

State Potential Emissions **Add worst case coating to all solvents** **6.68** **160.35** **29.26** **0.44**

Worst case coating at all 4 spray booths 55.81

METHODOLOGY:
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **Heritage Furniture, a Division of Middlebury Hardwood Products, Inc.**
Address City IN Zip: **19881County Road 146, New Paris, Indiana 46553**
Minor Source Modification: **039-11516**
Plt ID: **00437**
Reviewer: **Melissa Groch**

Air Make-up Unit, EU-12

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
3.6	31.5

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.1	0.0	1.6	0.1	1.3

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).
See page 2 for HAPs emissions calculations.